	Application No.	Applicant(s)
Notice of Allowability	10/721,743	BOYD ET AL.
	Examiner	Art Unit	
	Nicholas D. Rosen	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/22/07*.

2. ☒ The allowed claim(s) is/are *15-31,33-36,38-40 and 42-44*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL. ,

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Nicholas D. Rosen

NICHOLAS D. ROSEN
PRIMARY EXAMINER

DETAILED ACTION

Claims 15-31, 33-36, 38-40, and 42-44 have been examined.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with attorney Robert Atkins on May 29, 2007.

The application has been amended as follows: Claims 32, 37, 41, and 45 are

hereby cancelled.

Claim 15 is hereby amended to read:

15.   A computer-implemented method of promotion price organization, comprising:

a product segmentation module identifying products to be analyzed under a

plurality of promotion schemes;

a customer segmentation module identifying customers of the products to be

analyzed under the promotion schemes;

an incentive translation module providing incentive typing of the products to be

analyzed under the promotion schemes by collecting incentive offers for promotion

programs over a time period and transforming the promotion programs to fit market modeling requirements;

a data aggregation module evaluating historical promotional transactions by aggregating for the products to be analyzed under the promotion schemes;

a model selection module selecting a model for analyzing the aggregated data by performing the step of steps (a) through (e) which the model selection module determines to be appropriate from the availability of product data, and, as required: the completeness of product data, the cross-impactedness of product segments, and the number of products:

(a) selecting a standard model if product data is unavailable,

(b) selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available and complete,

(c) selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are cross-impacted,

(d) selecting market share as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are not cross-impacted but the number of products to evaluate exceeds a predetermined maximum value,

(e) selecting market share as a dependent variable and evaluating using an attraction model if product data is available but incomplete and product segments are

not cross-impacted and the number of products to evaluate does not exceed a

predetermined maximum value;

a calibration module calibrating the selected model by determining values for

dependent variables used in analyzing the aggregated product data within the selected

model;

an evaluation module estimating an effect of promotional schemes on profits by

evaluating the aggregated product data in accordance with the selected model;

a constraints generation module for a user defining constraints on variables in

the selected model;

a cost structure module determining costs associated with the promotion

schemes; and

an optimization module determining optimal discount for the products to be

analyzed under the promotion schemes and ranking the products by profitability based

on the model and dependent variable selected by the selection model.

Claim 30 is hereby amended to read:

30.   A computer-implemented method of promotion price optimization, comprising:

identifying products to be analyzed under a plurality of promotion schemes;

identifying customers of the products to be analyzed under the promotion

schemes;

providing for incentive typing of the products to be analyzed under the promotion

schemes;

evaluating historical promotional transactions by aggregating product data for the products to be analyzed under the promotion schemes;

selecting a model for analyzing the aggregated product data; wherein the step of selecting a model further includes:

selecting a standard model if product data is unavailable;

selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available and complete;

selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are cross-impacted;

selecting market share as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are not cross-impacted but the number of products to evaluate exceeds a predetermined maximum value;

selecting market share as a dependent variable and evaluating using an attraction model if product data is available but incomplete and product segments are not cross-impacted and the number of products to evaluate does not exceed a predetermined maximum value;

calibrating the selected model by determining values for dependent variables used in analyzing the aggregated product data within the selected model;

estimating an effect of promotional schemes on profits by evaluating the aggregated product data in accordance with the selected model;

defining constraints on variables in the selected model, wherein the constraints are defined by a user;

determining costs associated with the promotion schemes; and

determining optimal discount for the products to be analyzed under the promotion schemes and ranking the products by profitability.

Claim 33 is hereby amended to read:

33.   A computer-implemented method of promotion price optimization, comprising:

identifying products to be analyzed under a plurality of promotion schemes;

selecting a model for analyzing the aggregated product data; wherein the step of selecting a model further includes:

selecting a standard model if product data is unavailable;

selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available and complete;

selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are cross-impacted;

selecting market share as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are not cross-impacted but the number of products to evaluate exceeds a predetermined maximum value; and

selecting market share as a dependent variable and evaluating using an

attraction model if product data is available but incomplete and product segments

are not cross-impacted and the number of products to evaluate does not exceed

a predetermined maximum value;

defining constraints on variables in the selected model, wherein the constraints

are defined by a user; and

determining optimal discount for the products to be analyzed under the promotion

schemes and ranking the products by profitability.

Claim 38 is hereby amended to read:

38.   A computer program product usable with a programmable computer processor

having a computer readable program code embodied therein, comprising:

computer readable program code which identifies products to be analyzed under

a plurality of promotion schemes;

computer readable program code which identifies customers of the products to

be analyzed under the promotion schemes;

computer readable program code which selects a model for analyzing the

aggregated product data; wherein selecting a model further includes:

selecting a standard model if product data is unavailable;

selecting sales volume as a dependent variable and evaluating using a

multiplicative model if product data is available and complete;

selecting sales volume as a dependent variable and evaluating using a

multiplicative model if product data is available but incomplete and product

segments are cross-impacted;

selecting market share as a dependent variable and evaluating using a

multiplicative model if product data is available but incomplete and product

segments are not cross-impacted but the number of products to evaluate

exceeds a predetermined maximum value; and

selecting market share as a dependent variable and evaluating using an

attraction model if product data is available but incomplete and product segments

are not cross-impacted and the number of products to evaluate does not exceed

a predetermined maximum value;

computer readable program code which calibrates the selected model by

determining values for dependent variables used in analyzing the aggregated product

data within the selected model;

computer readable program code which estimates an effect of promotional

schemes on profits by evaluating the aggregated product data in accordance with the

selected model;

computer readable program code which provides for user-defined constraints on

variables in the selected model;

computer readable program code which determines costs associated with the

promotion schemes; and

computer readable program code which determines optimal discount for the products to be analyzed under the promotion schemes and ranks the products by profitability.

Claim 42 is hereby amended to read:

42.   A computer system for promotion price optimization, comprising:

means for identifying products to be analyzed under a plurality of promotion schemes;

means for identifying customers of the products to be analyzed under the promotion schemes;

means for selecting a model for analyzing the aggregated product data; wherein the means for selecting a model further includes:

means for selecting a standard model if product data is unavailable;

means for selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available and complete;

means for selecting sales volume as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are cross-impacted;

means for selecting market share as a dependent variable and evaluating using a multiplicative model if product data is available but incomplete and product segments are not cross-impacted but the number of products to evaluate exceeds a predetermined maximum value; and

means for selecting market share as a dependent variable and evaluating
using an attraction model if product data is available but incomplete and product
segments are not cross-impacted and the number of products to evaluate does
not exceed a predetermined maximum value;

means for calibrating the selected model by determining values for dependent
variables used in analyzing the aggregated product data within the selected model;

means for estimating an effect of promotional schemes on profits by evaluating
the aggregated product data in accordance with the selected model;

means for a user to define constraints on variables in the selected model;

means for determining costs associated with the promotion schemes; and

means for determining optimal discount for the products to be analyzed under the
promotion schemes and ranking the products by profitability.

Allowable Subject Matter

Claims 15-29 are allowed.

Claims 30 and 31 are allowed

Claims 33-36 are allowed.

Claims 38-40 are allowed.

Claims 42-44 are allowed.

The following is an examiner's statement of reasons for allowance: The closest
prior art of record, Cook (U.S. Patent 6,631,360), discloses identifying products to be

analyzed (column 4, lines 4-12) and selecting a model for that purpose (column3, lines

8-26). Cook does not disclose optimal discount for the products to be analyzed under

the promotion schemes and ranking the products by profitability, but Ali ("A Model for

Optimizing the Refund Value in Rebate Promotions") teaches determining optimal

discount. Cook does not disclose defining constraints on variables in the selected

model, wherein the constraints are defined by a user, but defining constraints (e.g.,

boundary conditions, particular values of variables, etc.) is well known. However,

neither Cook, Ali, nor any other prior art of record discloses that selecting a model

includes: selecting a standard model if product data is unavailable; selecting sales

volume as a dependent variable and evaluating using a multiplicative model if product

data is available and complete; selecting sales volume as a dependent variable and

evaluating using a multiplicative model if product data is available but incomplete and

product segments are cross-impacted; selecting market share as a dependent variable

and evaluating using a multiplicative model if product data is available but incomplete

and product segments are not cross-impacted but the number of products to evaluate

exceeds a predetermined maximum value; and selecting market share as a dependent

variable and evaluating using an attraction model if product data is available but

incomplete and product segments are not cross-impacted and the number of products

to evaluate does not exceed a predetermined maximum value. Multiplicative models

are known, as taught, for example, by Garg (U.S. Patent 6,044,357) (column 2, lines 47-

60; column 8, lines 10-49). Market share attraction models are known, as taught by

Naert and Weverbergh ("On the Prediction Power of Market Share Attraction Models").

However, no prior art of record discloses or reasonably suggests the detailed procedure for selecting a model.

The above statement has been written with particular reference to claim 33, but the other independent claims (claims 15, 30, 38, and 42) recite language parallel to that which makes claim 33 allowable, and are allowable on at least the same grounds.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Naftzger (U.S. Patent 5,717,866) discloses a method for comparative analysis of consumer response to product promotions. Cunningham et al. (U.S. Patent 6,029,139) disclose a method and apparatus for optimizing promotional sale of products based upon historical data. Cook (U.S. Patent 6,631,360) discloses a computer-implementable Internet prediction method. Gonten (U.S. Patent 6,708,156) discloses a system and method for projecting market penetration. Lin et al. (U.S. Patent 6,847,934) disclose a marketing selection optimization process. Srikant et al. (U.S. Patent 6,862,574) disclose a method for customer segmentation with applications to electronic commerce.

Gailey et al. (U.S. Patent Application Publication 2002/0161627) disclose a method for passive mining of usage information in a location-based services system. Reed et al. (U.S. Patent Application Publication 2004/0103051) disclose multi-dimensional segmentation for use in a customer interaction.

Naert and Weverbergh ("On the Prediction Power of Market Share Attraction Models," Abstract only) disclose multiplicative and attraction models. Brodie and de Kluyver ("Attraction Versus Linear and Multiplicative Market Share Models: An Empirical Evaluation," Abstract only) disclose multiplicative and attraction models. Ali et al. ("A Model for Optimizing the Refund Value in Rebate Promotions," Abstract only) disclose determining optimal promotions. Garry ("Computing Promotions") discloses evaluating and planning promotions. Mohn ("Pricing Research for Decision Making") discloses analysis of promotions. The anonymous article, "Winn-Dixie Selects KhiMetrics Retail Revenue Management Application Suite for Pricing and Promotions; Alignment with Tier One Retailer Creates Comprehansive Solution," discloses creating "what-if" analysis of promotional events.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas D. Rosen, whose telephone number is 571-272-6762. The examiner can normally be reached on 8:30 AM - 5:00 PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Smith, can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Non-official/draft communications can be faxed to the examiner at 571-273-6762.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nicholas D. Rosen

NICHOLAS D. ROSEN
PRIMARY EXAMINER
May 30, 2007